

MEETING

Investigating Arctic Ocean History: From Speculation to Reality

***A Workshop to Prepare for Arctic Ocean Scientific Drilling;
Bremerhaven, Germany, 3–5 November 2008***

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The modern Arctic Ocean appears to be changing faster than any other region. To understand the potential extent of high-latitude climate change, it is necessary to sample the history stored in the sediments filling the basins and covering the ridges of the Arctic Ocean. These sediments have been imaged with seismic reflection data, but except for the superficial record, which has been piston cored, they have been sampled only in a few locations. In November 2008 a meeting was held at the Alfred Wegener Institute, in Germany, to plan the future of scientific drilling in the Arctic Ocean.

One hundred forty-one applications were received for the 95 available seats. The Consortium for Ocean Leadership provided support for the workshop through the U.S. Science Support Program associated with the Integrated Ocean Drilling Program (IODP) and through the Nansen Arctic Drilling Program. In addition to these funds, contributions from the European Science Foundation supported European and American participants. The Arctic Ocean

Sciences Board and contributions from six oil companies (BP, ConocoPhillips, Exxon-Mobil, the Norwegian Petroleum Directorate, Shell, and Statoil) made it possible to support Canadian, Russian, Japanese, and Korean participants.

In planning this meeting, the conveners attempted to mesh the Arctic science and ocean drilling communities. To develop a common reference frame, the first day of the meeting focused on presentations about what is known about the Arctic Ocean; the limited history of high-latitude drilling, which includes a core taken on the Lomonosov Ridge in 2004 during the Arctic Coring Expedition (ACEX; IODP Leg 302) and a core collected in 1993 below the ice-free waters of the Yermak Plateau to the north of Svalbard (Ocean Drilling Program (ODP) Leg 151); and the process of developing proposals for IODP. The next day and a half was spent in breakout groups discussing the questions to be addressed by drilling and targets for Arctic scientific drilling.

On the final day, the participants committed to submitting new IODP

preproposals for Arctic Ocean drilling. On the basis of this discussion at this meeting, approximately six new preproposals may be submitted to IODP by the 1 April deadline. In addition, a community-wide (United States, Europe, Japan, and others), multidisciplinary, and international conference—IODP New Ventures in Exploring Scientific Targets (INVEST)—is planned for September 2009 to discuss directions of scientific ocean drilling beyond 2013.

The IODP drilling proposals discussed at the recent workshop will be submitted at a critical time for both the future of Arctic Ocean science and the future of scientific ocean drilling. Only in the past few years, through dedicated efforts of a number of research groups, have there been sufficient data to propose testable hypotheses and to select drill sites on most of the significant bathymetric features. Meeting conveners hope these preproposals will direct future scientific ocean drilling north toward these critical priorities, and that the results of the recent workshop will contribute to developing new scientific objectives.

Many of the workshop's talks, documents generated by the breakout groups, and contact information for the IODP preproposals are available through the meeting Web site (<http://www.oceanleadership.org/usssp/workshops/arctic>). More information on the upcoming INVEST conference can be found at <http://www.iodp.org>.

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